

CLAIMS

What is claimed is:

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1. A cathode plate of field emission display comprising:
a cathode substrate of the field emission display having a
thickness; and

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one or more in-laid linear isolation barriers formed within the
thickness of a top surface of the cathode substrate, wherein the one or more
in-laid linear isolation barriers are adapted to contain electron emitter lines,
wherein the one or more in-laid linear isolation barriers provide field isolation
between respective ones of the electron emitter lines.

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2. The cathode plate of Claim 1 wherein the cathode substrate
further comprises one or more electron emitter lines formed within each of
the one or more in-laid linear isolation barriers.

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3. The cathode plate of Claim 2 wherein portions of the top
surface in between the one or more in-laid isolation barriers are adapted to
contact gate wires of a gate frame positioned over the cathode substrate in
order to dampen vibrations in the gate wires due to the driving frequency.

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4. The cathode plate of Claim 2 further comprising a trace
coupled at one end to the top surface of the cathode substrate and coupled at
an opposite end to a portion of a respective one of the one or more emitter
lines.

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5. The cathode plate of Claim 4 wherein the trace is bent so that
the one end of the trace is flush with the top surface of the cathode plate and

the opposite end is flush with the respective one of the one or more emitter lines.

6. The cathode plate of Claim 1 wherein the one or more in-laid linear isolation barriers comprise one or more trenches.

7. The cathode plate of Claim 1 wherein regions of the top surface of the cathode plate in between the one or more in-laid linear isolation barriers are adapted to contact gate wires of a gate frame of the field emission display and dampen vibrations in the gate wires from the driving frequency.

8. The cathode plate of Claim 1 wherein the one or more in-laid linear isolation barriers extend a full length of the cathode substrate.

9. An isolation/barrier device of a field emission display comprising:

linear in-laid means for isolating linear electron fields emitted from adjacent emitter lines of a cathode substrate of the field emission display.

10. The device of Claim 9 wherein the in-laid means include means for contacting gate wires of a gate frame of the field emission display, wherein the means for contacting dampen vibrations in the gate wires from the driving frequency.